CLAIMS

1. A backplane for establishing a signal connection between a plurality of cards, comprising a support (1) for signalling lines (4, 5) and a plurality of card slots (3) located on said support (1) in a predefined sequence for connecting a card (15, 16, 17), each of the card slots having a plurality of signal-carrier contacts (6) which are located at each card slot (3) according to a same pattern, characterized in that at the card slots (3), at least two positions of contacts are defined such that a contact (60) at one of these two positions, referred to as the 0-th position, of each card slot (3) that has a successor in said sequence is connected to a contact at said other position (61) of said successor card slot, referred to as the first position, via the backplane.

2. The backplane of claim 1, characterized in that the contact (60) at the 0-th position of each card slot having a n-th successor in said sequence, n being an integer and larger than one, is in communicating connection with a contact (6i) at an i-th position of an i-th successor for all i=1, ..., n.

3. The backplane of claim 2, characterized in that the contact (60) at the 0-th position of each card slot (3) is in communicating connection with an even number of contacts (6-3, 6-2, 6-1, 61, 62, 63) of other card slots.

4. The backplane according to any one of the preceding claims, characterized in that the card slots (3) form one or more groups and are located spatially adjacent within each group, and that the defined sequence in each group corresponds to the spatial order of the card slots (3).

5. The backplane of claim 4, characterized in that the defined sequence is a cyclical sequence in which a first card slot of the spatial order (31) of a first one of said groups (1) is successor to the last card slot (3r) of the last one of said groups.

6. An assembly comprising a backplane (1) according to one of the preceding claims and at least first and second cards (16, 17) connected to card slots of said backplane, characterized in that the two cards (16, 17) are connected by a signal line (5) of the back-plane (1), which extends via a contact (60) at the 0-th position of the card slot (3) of the first card (17), and that the first card (17) controls a function, in particular a safety function, of the second card (16) by said signal line (5).

7. The assembly of claim 6, characterized in that the safety function is an automatic de-energization of a laser source of the second card.

8. The assembly of claim 6 or 7, characterized in that the second card (16) is adapted to detect if a signal connection to the first card (17) exists via a j-th contact of its slot and to ignore control signals appearing at an i-th contact (6i), i>j.

9. The assembly of claim 6 or 7, characterized in that a signal connection between an i-th contact (6i) of a card slot and an (i+2)-th con-tact (6i+2) of a succeeding card slot of said defined sequence is interruptible by mounting a card in a card slot located between said two card slots.

10. The assembly according to one of claims 6 or 9, characterized in that the first card (17) is connected by said signal line (5) to one contact (6i), referred to as i-th contact, of the i-th successor of its own card slot (3) and with a contact (6-i) referred to as (-i)-th contact, of the i-th predecessor of its own card slot (3) for all i=1, ..., n.